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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/520,075

09/28/2005

Terry P Bowen

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26794 7590 03/17/2008  
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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

MAIL DATE

DELIVERY MODE

03/17/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,075	<b>Applicant(s)</b> BOWEN ET AL.	
	<b>Examiner</b> Thanh X. Luu	<b>Art Unit</b> 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-16 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16,18-22 and 24 is/are allowed.
- 6) ☒ Claim(s) 1,3-15 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

This Office Action is in response to amendments and remarks filed January 9, 2008. Claims 1, 3-16 and 18-24 are currently pending.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 8-11, 13-15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinen et al. (U.S. Patent 4,768,199) in view of Matsumoto (U.S. Patent 5,849,204).

3. Regarding claims 1, 3, 4, 11, 13-15 and 23, Heinen et al. disclose (see Figs. 1-5) an optical assembly having a top and bottom orientation and comprising: a platform (111) defining an upward-facing v-groove (113) with walls of a certain pitch; a first optical component (2) having a substrate with a downward facing reference surface and two sides (8, 9), each side being beveled at the certain pitch outwardly from the reference surface, and comprising at least one optical element (7) secured to the reference surface, the optical element having a first optical axis (at 7); and a second optical component (21) having an outer periphery with at least two contact points and a second optical axis, the second optical component being disposed in the v-groove such that the contact points contact the walls of the V-groove and the second optical axis is coaxial with the first optical axis. The laser (7) is a semiconductor active element that

defines the optical axis. Heinen et al. do not specifically disclose that the first optical component being supported by the platform solely by the contact of the sides against the walls. Matsumoto teaches (see Figs. 4A and 4B) a similar device in which support is solely by the contact of the sides on a v-groove. Thus, Matsumoto recognizes that other support is not required. Heinen et al. further teaches (see col. 4, lines 61-65) it is the contact of the sides that is most important for exact positioning. Thus, one of ordinary skill in the art would appreciate that the contact or support created by surfaces 12 and 4 is incidental and would not affect the nature and operation of the device. It would have been obvious to one of ordinary skill in the art at the time the invention was made provide only sole support by the sides as claimed in the invention of Heinen et al. in view of Matsumoto for exact positioning as taught.

Regarding claims 8-10, Heinen et al. in view of Matsumoto disclose the claimed invention as set forth above. Heinen et al. and Matsumoto do not specifically disclose the type of materials as claimed or the pitch. However, choosing the particular type of material and pitch is a matter of design choice and would require only routine skill in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made provide the same materials for each component in the apparatus of Heinen et al. in view of Matsumoto to simplify manufacturing.

4. Claims 5-7, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinen et al. in view of Matsumoto and further in view of Fukuda et al. (U.S. Patent 6,931,215).

Regarding claims 5-7, Heinen et al. in view of Matsumoto disclose the claimed

invention as set forth above. Heinen et al. further discloses a laser diode. Heinen et al. and Matsumoto do not specifically disclose a monitor diode as claimed. Fukuda et al. teach (see Fig. 1) a similar module having a laser diode (1) optically connected to a monitor diode. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a monitor diode on the substrate as claimed in the apparatus of Heinen et al. in view of Matsumoto and Fukuda et al. to provide feedback for intensity control and improve transmission as taught.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heinen et al. in view of Matsumoto and further in view of Sherrer (U.S. Patent 6,786,649).

6. Regarding claim 12, Heinen et al. in view of Matsumoto disclose the claimed invention as set forth above. Heinen et al. and Matsumoto do not specifically disclose the second optical component comprises a substrate having beveled sides as claimed. Sherrer teaches (see Figs.) a fiber waveguide having beveled sides. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a beveled waveguide substrate as claimed in the apparatus of Heinen et al. in view of Matsumoto and Sherrer to obtain a better more stable fit.

#### ***Allowable Subject Matter***

7. Claims 16, 18-22 and 24 are allowed over the prior art of record.

#### ***Response to Arguments***

8. Applicant's arguments filed January 9, 2008 have been fully considered but they are not persuasive.

9. Applicant asserts that the Examiner's interpretation of "a reference surface" is

inconsistent with the claim language. Examiner disagrees. As the Examiner understands it, a surface of the substrate 2 on which the laser 7 is located/deposited is the reference surface. This surface is not labeled. The surface of the substrate 2 is flat. The mesa 5 projects outwardly from the flat reference surface thereby creating the claimed sides at 8/9 that extend outwardly. It is a reasonable interpretation. Therefore, Applicants remarks are not persuasive and this rejection is proper.

10. Examiner recommends more precisely claiming the invention rather than arguing over interpretation and semantics.

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is 571-272-2441. The examiner can normally be reached on M-F 6:00AM-3:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thanh X Luu/  
Primary Examiner, Art Unit 2878